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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
PAYNE, SHARON E	

ART UNIT	PAPER NUMBER
2875	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/078,256	LI, KENNETH K.	
	Examiner	Art Unit	
	Sharon E. Payne	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) *3,11-27 and 29-33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 2, 4-10, 28, 34-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The finality of the last Office Action is withdrawn and a new action is hereby issued.

Double Patenting

2. Claims 1, 34 and 36 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 2 of U.S. Patent No. 6,227,682 in view of Fjaestad et al. (U.S. Patent 5,873,646).

Claim	Claims of U.S. Patent 6,227,682	Fjaestad et al.	difference
1	1 and 2	filament lamp (abstract)	
34	1 and 2	filament lamp (abstract)	
36	1 and 2	filament lamp (abstract)	First and second reflector portions are symmetrical with collinear axes.

Regarding claims 1,34 and 36, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the filament lamp of Fjaestad et al. in the apparatus of Li (U.S. Patent 6,227,682) to provide a filament image on the reflectors.

Regarding claim 36, making the reflectors symmetrical with collinear axes is considered to be an obvious variation in design. Since symmetrical reflectors are well known in the art, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use symmetrical reflectors in the device of U.S. Patent 6,227,682 to ensure that most of the light is collected by the second reflector portion.

3. Claim 2 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 2 of U.S. Patent No. 6,227,682 in view of Fjaestad et al. (U.S. Patent 5,873,646) as applied to claim 1 and further in view of Strobl (U.S. Patent 5,414,600), hereinafter Strobl 600.

Claim	Claims of U.S. Patent 6,227,682	Fjaestad et al.	Strobl 600
2	1 and 2	Filament lamp (abstract)	A spherical retro-reflector (reference number M4) disposed on a side of the filament lamp opposite the first reflector structure to reflect electromagnetic radiation emitted from the filament lamp in a direction away from the additional reflector toward

			the first reflector structure through the first focal point of the first reflector structure (Fig. 8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the spherical retro-reflector of Strobl 600 on one side of the filament lamp of Fjaestad et al. in the apparatus of U.S. Patent 6,227,682 to reflect light from the lamp back into the lamp to the reflector on the other side of the lamp.

4. Claim 4 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 2 of U.S. Patent No. 6,227,682 in view of Fjaestad et al. (U.S. Patent 5,873,646) as applied to claim 1 and further in view of Strobl (U.S. Patent 6,3565,700 B1), hereinafter "Strobl 700."

Claim	Claims of U.S. Patent 6,227,682	Fjaestad et al.	Strobl 700
4	1 and 2	Filament lamp (abstract)	A tungsten filament lamp (column 37, lines 55-60)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the tungsten filament lamp of Strobl 700 in the apparatus of U.S. Patent 6,227,682

to achieve a higher color temperature and operate more efficiently. See Strobl 700, column 37 in lines 65-67.

5. Claims 5 and 6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 2 of U.S. Patent No. 6,227,682 in view of Fjaestad et al. (U.S. Patent 5,873,646) as applied to claim 1 and further in view of Dorman (U.S. Patent 4,149,227).

Claim	Claims of U.S. Patent 6,227,682	Fjaestad et al.	Dorman
5	1 and 2	Filament lamp (abstract)	A first reflector structure that has a coating that reflects substantially only a pre-specified portion of the electromagnetic radiation spectrum (column 9, line 66, to column 10, line 5)
6	1 and 2	Filament lamp (abstract)	The pre-specified portion as visible radiation (column 9, line 66, to column 10, line 5).

Regarding claims 5 and 6, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the coating of Dorman in the apparatus of U.S. Patent 6,227,682 to take the infrared portion of the spectrum out of the light, resulting cool light.

6. Claims 7, 9 and 10 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 2 of U.S. Patent No. 6,227,682 in view of Fjaestad et al. (U.S. Patent 5,873,646) as applied to claim 1 and further in view of Goldenberg et al. (U.S. Patent 4,956,759).

Claim	Claims of U.S. Patent 6,227,682	Fjaestad et al.	Goldenberg et al.
7	1 and 2	A filament lamp (abstract)	An output light pipe (reference number 40) having an input surface and an output surface (Fig. 1), the input surface being located proximate to the second focal point to collect substantially all of the radiation (Fig. 1) wherein the

			output surface transmits substantially all of the radiation (column 2, lines 57-60).
9	1 and 2	A filament lamp (abstract)	A tapered light pipe (Figs. 1-4)
10	1 and 2	A filament lamp (abstract)	A light pipe having a rectangular cross-section (Fig. 4).

Regarding claims 7, 9 and 10, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the tapered light pipe having a rectangular cross-section with an input surface at the second focal point of Goldenberg et al. in the apparatus of U.S. Patent 6,227,682 to provide an "illumination system for use in projection displays having a light valve in the form of a liquid crystal display illuminated by light emitted from the output aperture of the non-imaging reflector" (Goldenberg et al., column 1 in lines 5-12).

7. Claim 8 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 2 of U.S. Patent No. 6,227,682 in view of Fjaestad et al. (U.S. Patent 5,873,646) and Goldenberg et al. (U.S. Patent 4,956,759) as applied to claim 7 and further in view of Junginger (U.S. Patent 3,772,506).

Claim	Claim of U.S. Patent No.	Fjaestad et al.	Goldenberg et al.	Junginger

	6,227,682			
8	1 and 2	A filament lamp (abstract)	An output light pipe (reference number 40) having an input surface and an output surface (Fig. 1), the input surface being located proximate to the second focal point to collect substantially all of the radiation (Fig. 1) wherein the output surface transmits substantially all of the radiation (column 2, lines 57-60).	A glass light pipe (column 2, lines 65-68).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the glass light pipe of Junginger in the apparatus of U.S. Patent No. 6,227,682 for conducting light.

8. Claims 28, 35 and 37 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 28 of U.S. Patent No. 6,619,820 in view of Fjaestad et al. (U.S. Patent 5,873,646).

Claim	Claim of U.S. Patent 6,619,820	Fjaestad et al.	Difference
28	28	Positioning a filament lamp at a first focal point on a first reflector structure (Fig. 3) and producing rays of radiation by the filament lamp (Fig. 3); and reflecting at least part of a portion of the rays of radiation that do not impinge directly on the first reflector structure toward the first reflector structure through the first focal point of the first reflector structure (Fig. 3, reflector 46)	
35	28	Same as above.	First and second reflector

			portions are paraboloidal
37	28	Same as above.	First and second reflector portions are arranged substantially symmetrical with collinear axes.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the filament lamp and the step of reflecting rays back to the first reflector structure of Fjaestad et al. in the process of U.S. Patent 6,619,820 to provide light and reflect it back to the first reflector structure. See Fig. 3 of Fjaestad et al.

Regarding claims 35 and 37, using paraboloidal or symmetrical reflectors are considered to be obvious variations in design. Since paraboloidal reflectors and symmetrical reflectors are well known in the art, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use paraboloidal reflectors or symmetric reflectors in the process of U.S. Patent 6,619,820 to collimate and collect most of the light.

Response to Arguments

9. Applicant's arguments filed 28 January 2004 have been fully considered but they are not persuasive.

Claims 1, 34 and 36

Applicant argues that no motivation or suggest exists to combine Li '682 (U.S. Patent 6,227,682) with Fjaestad et al. (U.S. Patent 5,873,646). To the contrary, Li '682 provides a suggestion to use the filament lamp, such as one disclosed in Fjaestad et al., at column 4, lines 35-41.

Regarding claim 36, Applicant argues that the motivation cited in the final Office Action teaches away from the claimed invention. To the contrary, it teaches the invention claimed. Putting a reflector opposite another reflector having a light source at the focal point causes the reflector to collect the light emitted by the first reflector.

Claim 2

Applicant argues that no motivation exists in Li '682, Fjaestad et al. or Strobl '600 (U.S. Patent 5,414,600) to combine the references. To the contrary, Li '682 provides the motivation to combine Li '682 with Fjaestad et al. as discussed above. Furthermore, the office action provides the motivation to combine Strobl '600 with the other references. The motivation is to "reflect light from the lamp back into the lamp to the reflector on the other side of the lamp" (Office Action, page 4). Motivation does not have to come from the references, it can come from "knowledge generally available to one of ordinary skill in the art" (M.P.E.P. 2143). Applicant does not indicate why the stated motivation is not appropriate; therefore, the rejection stands.

Claim 4

Applicant argues that no motivation exists in Li '682, Fjaestad et al. or Strobl '700 (U.S. Patent 6,356,700) to combine the references. To the contrary, Li '682 provides the motivation to combine Li '682 with Fjaestad et al. as discussed above. Furthermore, Strobl '700 itself provides the motivation to combine the references. See column 37 in lines 65-67. Applicant argues that "[t]here is no reason to believe that the claims 1 and 2 of Li '682 needed a higher color temperature to operate more efficiently in the first place" (Reply to final Office Action of October 28, 2003, page 13). To the contrary, Strobl '700 gives one every reason to believe this assertion, because it says so in the patent itself.

Claims 5 and 6

Applicant argues that no motivation exists in Li '682, Fjaestad et al. or Dorman to combine the references. To the contrary, Li '682 provides the motivation to combine Li '682 with Fjaestad et al. as discussed above. Applicant further argues that Dorman fails to supply the requisite reason for combining as well. Motivation does not have to come from the references, it can come from "knowledge generally available to one of ordinary skill in the art" (M.P.E.P. 2143).

Applicant further argues that the motivation asserted in the Office Action "[conflicts] with the motivation asserted at paragraph 4 of the final Office Action with respect to the rejection of claim 4" (Reply to final Office Action of October 28, 2003, pages 13 and 14). To the contrary, the motivations can exist together. A product can have two features, one to provide cool light and the other to increase efficiency of the apparatus to make up for power losses in providing cool light.

Claims 7, 9 and 10

Applicant argues that no motivation exists to combine Li '682 with Fjaestad et al. and Goldenberg et al. (U.S. Patent 4,956,759). To the contrary, Li '682 provides the motivation to combine Li '682 with Fjaestad et al. as discussed above. Applicant further argues that Goldenberg et al does not provide the requisite motivation. To the contrary, Goldenberg et al. provides the motivation to combine the references. The motivation is to provide an "illumination system for use in projection displays having a light valve in the form of a liquid crystal display illuminated by light emitted from the output aperture of the non-imaging reflector" (Goldenberg et al., column 1 in lines 5-12).

Claim 8

Applicant argues that no motivation exists to combine Li '682 with Fjaestad et al., Goldenberg et al. (U.S. Patent 4,956,759) and Junginger (U.S. Patent 3,772,506). Applicant further argues that claim 1 or claim 2 do not give one any reason to modify Li '628 as shown in Goldenberg et al. and Junginger. Motivation does not have to come from the references; it can come from "knowledge generally available to one of ordinary skill in the art" (M.P.E.P. 2143). The Office Action gives the motivation, which is "for conducting light." It is well known that glass conducts light.

Claims 28, 35 and 37

Applicant argues that no motivation or suggestion exists to combine Li '820 (U.S. Patent 6,619,820) with Fjaestad et al. To the contrary, the suggestion is in Li '820 in column 5, lines 15-20). In this case the reference provides the motivation or suggestion to combine.

Applicant also argues that there is no motivation to combine a paraboloidal reflector or a first and second reflector that are arranged substantially symmetrical with collinear axes with the elements of claim 28. To the contrary, the motivation is provided in the Office Action, which is "to collimate and collect most of the light." Motivation can come from knowledge generally available to one of ordinary skill in the art" (M.P.E.P. 2143). This motivation is provided in the Office Action, and the Applicant has not stated why it is improper. Thus, the rejection stands.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharon E. Payne whose telephone number is (571) 272-2379. The examiner can normally be reached on regular business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sep

Stephen Husar
Primary Examiner